

Notice of Allowability

Application No.

10/779,760

Examiner

Thinh T. Nguyen

Applicant(s)

PATEL ET AL.

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to: 1/24/2005.
2. ☒ The allowed claim(s) is/are 33-38, 50-58 and 61-64.
3. ☒ The drawings filed on 18 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



David Nelms
Supervisory Patent Examiner
Technology Center 2800

DETAILED ACTION

Reason for allowance

1. Claims 33-38,50-58,61-64 are allowed. The following is an examiner's statement of reason for allowance:

I/ Group I: Claims 33-37,50-58,61:

None of the references of record teaches or suggests the claimed **HIGH DENSITY 3D RAIL STACK ARRAYS AND METHOD OF MAKING** having the limitations:

-- "a second-rail heavily doped semiconductor layer of the second conductivity type electrically connected to the second-rail heavily doped semiconductor layer of the first conductivity type by a second-rail metal or metal silicide layer; "-- and

-- "a third-rail heavily doped semiconductor layer of the first conductivity type electrically connected to the third-rail heavily doped semiconductor layer of the second first conductivity type by a third-rail metal or metal silicide layer" --

and all other limitations as recited in claim 33 and 50.

II / Group II : claim 38:

None of the references of record teaches or suggests the claimed **HIGH DENSITY 3D RAIL STACK ARRAYS AND METHOD OF MAKING** having the limitations:

-- “ wherein a gate electrode of the first transistor is electrically connected to a source or drain of the second transistor without any lateral interconnects. “--

and all other limitations as recited in claim 38.

III / Group III : claim 62-64:

None of the references of record teaches or suggests the claimed **HIGH DENSITY 3D RAIL STACK ARRAYS AND METHOD OF MAKING** having the limitations:

-- “ A monolithic three-dimensional array of active devices comprising odd and even levels of field effect transistors, wherein: odd levels comprise transistors of a first polarity; “-- and

-- “ current flows between the source and the drain in a first direction through transistors of the first polarity; and current flows between the source and the drain in a second direction not parallel to the first direction through transistors of the second polarity. “--

and all other limitations as recited in claim 62.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance”.

Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790. The examiner can normally be reached on Monday-Friday 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached at 571-272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Thinh T Nguyen



Art unit 2818



David Nelms
Supervisory Patent Examiner
Technology Center 2800